DOCUMENT RESUME

ED 218 398 UD 022 329

TITLE	Project Esperanza. E.S.E.A. Title VII Annual Evaluation Report, 1980-81.
INSTITUTION	New York City Board of Education, Brooklyn, N.Y. Office of Educational Evaluation.
SPONS AGENCY	Office of Bilingual Education and Minority Languages Affairs (ED), Washington, DC.
PUB DATE	[81]
GRANT	G008006172
NOTE	39p.
EDRS PRICE	MF01/PC02 Plus Postage.
DESCRIPTORS	*Academic Achievement; Bilingual Education; *Bilingual Education Programs; Cultural Education; *Disabilities; Elementary Secondary Education; *English (Second Language); Federal Programs; Inservice Teacher Education; *Limited English Speaking; Mathematics; Parent Participation; *Program Effectiveness; Program Evaluation; Program Implementation; Reading; *Spanish Speaking; Special Education
IDENTIFIERS	Elementary Secondary Education Act Title VII; New York City Board of Education

ABSTRACT

An evaluation is presented in this report of Project Esperanza, which provided supplemental instruction, materials development, staff training, resource assistance, and outreach services to support the special education program for handicapped Spanish speaking pupils with limited English proficiency in New York City. In 1980-81, the program provided instruction in Spanish and English reading, oral English proficiency, mathematics, and the cultural heritage. Program evaluation showed that: 1) all the program objectives for pupil achievement were met; 2) high school students demonstrated larger gains in Spanish reading, mathematics, and cultural heritage, but also had higher truancy rates than middle or elementary school students; 3) elementary school students showed larger gains in oral English proficiency than middle and high school students; 4) teacher training objectives were attained; and 5) some degree of parent participation was achieved. Recommendations for program improvement included increasing the number of resource specialists; developing appropriate materials; and more teacher training on the effects of code switching. (Author/MJL)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

ED218398

U.S. DEPARTMENT OF EDUCATION
NATIONAL INSTITUTE OF EDUCATION
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

✓ This document has been reproduced as received from the person or organization originating it.

☐ Minor changes have been made to improve reproduction quality.

• Points of view or opinions stated in this document do not necessarily represent official NIE position or policy.

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY

T. K. Minter
NYC Bd of Ed

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

ANNUAL EVALUATION REPORT

E.S.E.A. TITLE VII

5001-62-17609

G008006172

PROJECT ESPERANZA

1980-81

Division of Special Education
Alan Gartner, Executive Director

D.S.E. Reimbursable Programs
Allison Tupper

Prepared by:

O.E.E./Special Education Evaluation Unit

Robert Tobias, Evaluation Manager

John Spiridakis, Consultant

UD 022 329

New York City Public Schools
Office of Educational Evaluation
Richard Guttenberg, Director

A SUMMARY OF THE EVALUATION OF THE 1980-81 TITLE VII PROJECT ESPERANZA

Project Esperanza supplemented the basic special education program for handicapped students with limited English proficiency (L.E.P.) by providing (1) staff training and consultation, (2) materials development, identification, and evaluation, (3) assistance in the diagnosis of educational needs and the prescription of instructional strategies, (4) direct individualization of instruction, and (5) outreach services.

During 1980-81, the program's inaugural year, 293 students were served in 20 elementary, intermediate, and secondary schools. Project staff included a project director, coordinator, four resource specialists, two educational assistants, two family assistants, and an administrative office aide.

The analysis of data from pupil achievement measures, program records, and interviews and observations by an Office of Educational Evaluation consultant, lead to the overall conclusion that Project Esperanza provided an effective, comprehensive program of supplementary services that promoted the academic development of handicapped L.E.P. students.

All of the program objectives for pupil achievement were attained; the proposed criteria were met in English and Spanish reading, oral-English proficiency, mathematics, and cultural heritage. The high school-level population demonstrated larger gains than the elementary or middle school students in Spanish reading, mathematics, and cultural heritage; however, the high school students also showed a high rate of truancy. The elementary school students showed significantly larger gains in oral-English proficiency than the middle or high school students.

The project objective for teacher training was also attained. In response to participation in teacher workshops, the classroom teachers demonstrated proficiency in developing individual instructional objectives as the focus of a diagnostic-prescriptive teaching approach.

Despite repeated and varied efforts by project staff, the objective for parent involvement was not attained. It is noteworthy, however, that relative to many other projects for similar populations, a moderate degree of parent participation was achieved. Moreover, project staff demonstrated a sincere desire to increase parent participation by eliciting the aid of the National Origin Desegregation Assistance Center.

The following recommendations are aimed at improving the overall effectiveness of this meritorious program: increase the number of resource specialists and reduce their workload; develop materials and tests which are appropriate for the population; establish classes and place students at the beginning of the school year; and train classroom teachers on the effects of code switching.

CONTENTS

I. INTRODUCTION..... 1

II. EVALUATION OF PROGRAM IMPLEMENTATION..... 2

DESCRIPTION..... 2
LEVEL OF IMPLEMENTATION..... 3
DIRECT PUPIL INSTRUCTION..... 4
RESOURCE SERVICES..... 7
STAFF DEVELOPMENT..... 8
PARENT INVOLVEMENT..... 10

III. EVALUATION OF THE ATTAINMENT OF PROGRAM OBJECTIVES..... 12

DESCRIPTION OF THE POPULATION..... 12
OBJECTIVE 1. ENGLISH-READING MASTERY..... 13
OBJECTIVE 2. SPANISH-READING MASTERY..... 15
OBJECTIVE 3. MASTERY OF MATHEMATICS SKILLS..... 17
OBJECTIVE 4. ORAL-ENGLISH PROFICIENCY..... 22
OBJECTIVE 5. MASTERY OF CULTURAL HERITAGE CURRICULUM..... 25
OBJECTIVE 6. PARENT INVOLVEMENT..... 29
OBJECTIVE 7. STAFF DEVELOPMENT..... 29

IV. CONCLUSIONS AND RECOMMENDATIONS..... 31

TABLES

TABLE 1..... 14

FREQUENCY DISTRIBUTION OF THE MASTERY OF OBJECTIVES IN ENGLISH READING

TABLE 2..... 16

FREQUENCY DISTRIBUTION OF THE NUMBER OF SPANISH-READING SKILLS MASTERED BY PROGRAM STUDENTS

TABLE 3..... 18

RELATIVE PERCENTAGE OF STUDENTS WITHIN SCHOOL LEVEL THAT ATTAINED THE FOUR-SKILL CRITERION IN SPANISH READING

TABLE 4..... 20

FREQUENCY DISTRIBUTION OF THE NUMBER OF MATHEMATICS SKILLS MASTERED BY PROJECT STUDENTS

TABLE 5..... 21

RELATIVE PERCENTAGE OF STUDENTS WITHIN SCHOOL LEVEL THAT ATTAINED THE FOUR-SKILL CRITERION IN MATHEMATICS

TABLE 6..... 23

COMPARISONS OF PRE- AND POSTTEST ORAL-ENGLISH LANGUAGE PROFICIENCY SCORES

TABLE 7..... 24

ANALYSIS OF COVARIANCE FOR POSTTEST ENGLISH-LANGUAGE SCORES BY SCHOOL LEVEL

TABLE 8..... 26

INDIVIDUAL COMPARISONS OF ADJUSTED ENGLISH-LANGUAGE POSTTEST MEANS BETWEEN SCHOOL LEVELS

TABLES (CONTINUED)

TABLE 9..... 28

FREQUENCY DISTRIBUTION OF THE NUMBER OF CULTURAL HERITAGE OBJECTIVES MASTERED BY PROGRAM STUDENTS

I. INTRODUCTION

This report presents the findings of the evaluation of the first funding year of the E.S.E.A. Title VII program, Project Esperanza. This program provided supplemental instruction, staff training, resource assistance, and outreach services to support the special education program for handicapped Spanish-speaking pupils with limited English proficiency (L.E.P.).

Project Esperanza was designed to assist the Division of Special Education (D.S.E.) of the New York City Public Schools in effectively meeting the educational needs of underserved L.E.P. students who were previously served in non-bilingual special education or regular education classes. Population projections based on a census by D.S.E. estimated that, by 1983, the number of handicapped L.E.P. students in the New York City Public Schools would increase to approximately 10 thousand. To provide appropriate educational services for this population, D.S.E. marshalled efforts to identify these students and dramatically increase the number of self-contained, bilingual, special education classes. Project Esperanza's mission was to provide comprehensive supplementary services to assure the quality of the expanding bilingual special education program.

Project Esperanza was evaluated by the Office of Educational Evaluation (O.E.E.) through the collection and analysis of data from (1) pupil achievement tests, (2) program records of parent participation and staff training, and (3) interviews and observations concerning the level and quality of program implementation. The following chapters present the findings of the evaluation. Chapter II provides a description of the program and the evaluation of program implementation; Chapter III addresses the level of attainment of program objectives; and Chapter IV presents conclusions and recommendations.

II. EVALUATION OF PROGRAM IMPLEMENTATION

DESCRIPTION

Project Esperanza supplemented the basic special education program for handicapped L.E.P. students by providing (1) staff training and consultation, (2) materials development, identification, and evaluation, (3) assistance in the diagnosis of educational needs and the prescription of instructional strategies, (4) direct individualization of instruction, and (5) outreach services.

The basic educational program was provided in self-contained classes staffed by tax-levy teachers in the ratio of one teacher to 12 students. The target population had never been served by D.S.E.'s other Title VII or Chapter 720 programs. They were either recently identified as handicapped L.E.P. students or drawn from a waiting list. Program referrals were made by School-Based Support Teams, Committees on the Handicapped, special-class and crisis-intervention teachers, and school clinical staff.

The pupil-centered objectives of the program were focused upon gains in reading in English and Spanish, mathematics, oral English-language competence, and cultural heritage. Other program objectives were to promote the involvement of parents in the educational program and improve the instructional skills of classroom teachers.

The program was comprised of four principal components: direct pupil instruction; resource services; staff development; parent involvement; and outreach services. The following sections present the findings of observations and interviews conducted by the O.E.E. consultant concerning the level of overall program implementation and the quality of each component.

LEVEL OF IMPLEMENTATION

During the 1980-81 school year, Project Esperanza served 293 students, far below the estimated target population of 860. The proposal estimate was based on a 1979 D.S.E. census report and represented the pro-rated number of handicapped L.E.P. students meeting the criteria for enrollment in bilingual special education classes in September 1980. The attainment of the projected target population was hampered by (1) the process of referral, evaluation, and identification of eligible students, (2) the location of teachers qualified in both bilingual and special education, and (3) the location of suitable sites and the establishment of classes. The staggered opening of classes is indicated by the gradual increase in project enrollment during the school year: the total target population numbered 52 in October, 181 in November, 206 in January, 258 in February, 284 in March, and 293 in April. Consistent with the reduction of the target population, the grant award was approximately half of the amount orignally budgeted.

The project served 25 bilingual, special education classes in 20 schools located in Manhattan, the Bronx, Brooklyn, and Queens; the average class register was 12. Sixteen of these classes were established prior to January 1981; nine were introduced after this date. Although the program was designed to serve elementary, intermediate, and junior high schools, the actual target sites included four high schools and an Occupational Training Center.

The project staff, who were all funded under the Title VII grant, included: a project director, who supervised and coordinated the overall organization and implementation of the program and was responsible for fiscal management; a project coordinator, responsible for assisting the project director in all aspects of program administration; four resource specialists, to assist

the classroom teacher in instructional planning, materials identification and utilization, and classroom instruction; two educational assistants, who assisted teachers in materials preparation and individual and small-group instruction of pupils; two family assistants, to provide outreach services for the students and their families; and an administrative office aide for clerical support. The position of curriculum specialist and one education assistant line remained vacant. All other staff were hired by October 1981, with the exception of one resource specialist, hired in December 1981, and the office aide, who began in June 1981.

DIRECT PUPIL INSTRUCTION

The project's two educational assistants provided the students with direct instructional services. Their goal was to enhance academic development in both Spanish and English by assisting in individual and small-group instruction. The educational assistants were intinerant, travelling to sites in Manhattan and the Bronx according to a regular schedule. They served those classes that were not served by tax-levy educational assistants. In addition to assisting in the individualization of instruction, the educational assistants participated in the development of instructional materials.

The importance of individualization of instruction to the educational success of these students was apparent in the observations conducted by the O.E.E. evaluator. Within each class the students exhibited varying levels of bilingualism, i.e., proficiency in English and Spanish, and variance in academic skills. Accordingly, individual and small-group instruction was essential to meet the individual needs of students. The trained educational assistants proved to be a vital asset to individualization. In this regard,

the resource specialist played a crucial role in training and monitoring the activities of the educational assistants, as well as the classroom teachers. (This role is described and evaluated in the next section of this report.) Observations revealed that, in most cases, the classroom environments were carefully planned for individualized learning through the establishment of learning centers or a model identified as the "Workshop Way" approach to classroom individualization. An aesthetic, well-organized bulletinboard containing material relevant to the program contributed to a positive educational atmosphere. Such bulletinboards displayed samples of each student's work in both English and Spanish, including creative artwork, posters, charts, and calendars. Classroom rules were posted in both languages. The stable, organized, and task-oriented atmosphere in most classrooms provided a secure and comfortable learning environment with a minimum of distractions which enabled many of the hyperactive students to remain on task.

Daily classroom instruction was provided in the major content areas outlined in the program proposal, i.e., Spanish and English reading, oral-English proficiency, mathematics, and cultural heritage. The individualized classroom approach seemed effective in maintaining the students' attention. Teachers and paraprofessionals demonstrated effective classroom-management skills, as they guided the students through successive intervals of independent work, small-group instruction, full-class instruction, and playtime. During interviews the staff indicated that such pacing and alternation of instructional methods helped to sustain the students' learning. The instructional staff demonstrated skill in systematic, multi-modality instruction, i.e., stimulating learning through several sensory modalities, including tactile, kines-

thetic, auditory, and visual processing modes. Pacing learning episodes and varying the methods and materials of instruction appeared to sustain student concentration on the learning tasks. The need for accomodating individual differences was underscored by an isolated case in which a teacher and educational assistant had not structured the educational environment to the individual needs of the students. The students in this classroom did not attend well to cognitive tasks which were assigned for independent work. There was no variety in instructional methods which involved unstructured silent reading or playing games. However, this teacher, who was recently hired, had secured the trust of the students and began taking steps to structure the learning activities under the guidance of the resource specialist.

Individualization of instruction was promoted through the organization of classrooms into learning centers and the employment of an instructional model known as the "Workshop Way". This model was demonstrated in over half of the classrooms observed. Specifically, the "Workshop Way" approach provided the students with several daily task categories, such as problem solving, which they would follow independently. The teachers programmed the specific activities for each task in which the students participated. The "Workshop" categories were usually displayed on large cards in the order they were to be taken up by the students.

This method appeared highly suitable for individualization and instilled confidence in the students and the ability to work independently. The "Workshop Way" had the added benefit of allowing the teacher or paraprofessional to spend more time with students in need of closer guidance and personal attention. This system of individualized instruction appeared to be particularly

suitable for self-contained classes.

Although the classes received an abundant supply of instructional materials, many of these were not consistant with the cognitive and academic levels of the students. The heterogeneity in skills of the target population necessitated the development of teacher-made or -adjusted materials. The resource specialist trained both classroom teachers and educational assistants in the development of instructional materials that met the students' individual educational needs.

The overall instructional approach observed in most classrooms was diagnostic-prescriptive; that is the individual strengths and weaknesses of students were diagnosed through criterion-referenced testing with instruction prescribed accordingly.

RESOURCE SERVICES

The resource specialist assisted, trained, and monitored the classroom teachers and educational assistants. They played an important role in providing on-site instructional support. Along with the project director and coordinator, they made regular visits to the sites within their region of responsibility to monitor classroom management and the educational process. During these regular visits, the need for materials was assessed. As a result, most sites were well equipped with audiovisual and other teaching equipment such as the Bell and Howell Language Master, Spellbinder, calculators, and various games and kits needed to maximize and extend cognitive/academic learning experiences.

In addition, the resource specialist provided assistance in the administration and interpretation of diagnostic tests, demonstrated methods of in-

dividualizing instruction, and helped implement small-group instruction and special projects such as the successful art festival. Many hours were spent training the teachers in the administration of tests such as the Basic Inventory of Natural Language (B.I.N.L.). The resource specialists encountered, in a few cases, inexperienced classroom teachers who required more extensive training and monitoring due to their lack of expertise in either bilingual education or special education methodology. The resource teachers demonstrated experience and expertise in both areas. All had taken many courses in bilingual and special education, and had extensive direct experience teaching the target population.

While the resource teachers exhibited energy and initiative in helping the children receive the services proposed, their work load, which included several sites in the case of one individual, appeared to be burdensome. More resource teachers with experience and skill such as these are needed to further strengthen this component of the program.

STAFF DEVELOPMENT

As already mentioned, the resource teachers were primarily responsible for day-to-day inservice training of teachers and educational assistant. The project director and coordinator also made frequent site visits and monitored inservice training and classroom instructional methods and techniques. Ways to improve teaching methods or curriculum were discussed among the project director, coordinator, and resource teachers with alternative strategies mutually planned.

Acutely aware that this program served students with a variety of handicaps and cognitive/academic levels, the program administrators wisely empha-

sized methods of individual instruction in workshops which were held for the educational assistants, teachers, and resource specialists. These workshops were held bimonthly on Saturdays at Bank Street College in Manhattan.

Other inservice workshops held during the year dealt with areas critical to a successful educational program for the target population: development of criterion-referenced tests in Spanish and English; development of curriculum and materials in Spanish and English; and bilingual and special education methodology.

Since this program focussed on developing both English and Spanish oral and written communication skills, it was imperative that the students' bilingualism was assessed. Teachers of bilingual handicapped youngsters needed to know precisely which literacy skills the students possessed in each language so that appropriate instructional groups and I.E.P.'s could be structured. In most cases, the target population required further development of the four language skills in both languages: listening, speaking, reading, and writing. The instructional program used for developing literacy skills in Spanish was designed around the results of assessment with the Leamos Diagnostic Test of Reading, while English-language instruction was based on assessment with an adaptation of the B.I.N.L. Accordingly, the teachers received extensive training in these instruments.

There is a paucity of commercial instructional materials in Spanish-language arts, English as a second language, and math, for bilingual special education students. Accordingly, the classroom teachers and educational assistants received training in materials adaptation and development.

Workshops which focus on developing functional-language assessment techniques could further improve language instruction.

PARENT INVOLVEMENT

Parent involvement was promoted through a series of workshops, a Parent Advisory Council, and the activities of family workers. Staff interviews and program records indicated that the efforts to secure parent involvement were extensive. All parents were individually invited to attend the workshops through letters, phone calls, and, where necessary, home visits by family workers. However, these efforts notwithstanding, parent attendance was low, thereby precluding the effectiveness of the parent training component (statistics are presented in Chapter III.) Moreover, although the parents expressed a receptive attitude toward the concept of a parent training program, participation in workshops and on the Parent Advisory Council remained low. Staff indicated that many parents were reluctant to get involved in program planning and that home problems took precedence over all other concerns.

The sincerity of the staff's desire to promote parent involvement was manifested by their initiative in consulting the National Origin Desegregation Assistance Center (N.O.D.A.C.) for assistance in increasing parent participation. These contacts resulted in the launching of a two-year cooperative program by project staff and N.O.D.A.C. consultants designed to bolster parent involvement in all aspects of bilingual education for the handicapped.

In addition to promoting parent participation in the program, the family workers provided outreach services by linking families of pro-

gram students with various social agencies. The family workers, who were supervised by a tax-levy guidance counselor, received referral for family intervention from classroom teachers, resource specialists, and principals. Most of these referrals involved health problems, truancy, welfare assistance, or disciplinary problems.

III. EVALUATION OF THE ATTAINMENT OF PROGRAM OBJECTIVES

Project Esperanza was designed to attain seven program objectives: five specifying pupil achievement, one related to parent participation, and another for the mastery of teaching skills in response to staff development. The following sections present the objectives of the program, the methods of evaluation, and the findings preceeded by an empirical description of the student population.

DESCRIPTION OF THE POPULATION

Descriptive, attendance, and achievement data were reported for analysis by the classroom teachers on O.E.E.-designed data retrieval forms. Data were reported for 298 students. Of these, achievement data were incomplete for 67 students for the following reasons: 19 (6.4 percent of the population of 298) were frequently absent or truant; 11 (3.7 percent) were discharged from the program; and 37 (12.4 percent) were late admissions for whom there were no baseline data. Accordingly, achievement data were analyzed for 231 students (77.5 percent). These 231 students ranged in age from seven to 20 years; the mean age was 12.9 (S.D. = 3.3). Approximately 42.6 percent of the students were in elementary schools, 30.5 percent in middle schools (i.e., intermediate and junior high schools), and 20.5 in high schools and Occupational Training Centers.

Approximately 46 percent of the students were classified as learning disabled and were served in Health Conservation-30 classes. The remainder of the population was classified as follows: 25 percent mentally re-

tarded; 13 percent specific learning disabled; 11 percent emotionally handicapped; nine percent educable mentally retarded; and four percent neurologically impaired and emotionally handicapped.

As indicated in Chapter II, the students entered the program throughout the project year. The number of sessions attended ranged from a minimum of 40 to a maximum of 172. The mean number of sessions attended, at the rate of five sessions per week, was 103.9 (S.D. = 33.3); the median was 105.3 and the mode was 117. The mean percentage attendance was 81 percent (S.D. = 20).

OBJECTIVE 1. ENGLISH-READING MASTERY

An objective of Project Esperanza was to promote the mastery of skills in English reading by those students who demonstrated the ability to profit from instruction in English as a second language. Specifically, the objective proposed that by June 15, 1981, 70 percent of the participating students receiving instruction in English, will have mastered four new reading objectives, as measured by the Random House Criterion Reading (C.R.) assessment. The C.R. consists of short tests each measuring a specific skill in the areas of phonology, structural analysis, and comprehension. Test administration was ongoing, i.e., each student was tested immediately after instruction in a specific skill.

To ascertain whether the objective was attained, a frequency distribution was constructed of the number of skills mastered by the students receiving English-reading instruction. (See Table 1.) Of the 21 students who received instruction in English reading, 14 or 66.7 percent

TABLE 1

FREQUENCY DISTRIBUTION OF
THE MASTERY OF OBJECTIVES IN
ENGLISH READING[a]

Number of Objectives Mastered	Number of Students	Relative Percent	Cumulative Percent
5	3	14.3	14.3
4	11	52.4	66.7[b]
3	6	28.6	95.3
2	1	4.8	100.1[c]
	21		

[a]Measured by the Random House Criterion Reading Test.

[b]At least four objectives were mastered by 66.7 percent of the students; the criterion for the objective was 70 percent.

[c]Exceeds 100 percent due to rounding error.

.The observed percentage of students mastering at least four new skills, 66.7 percent, was not significantly different from the proposed value, 70 percent (chi square = 0.10, $df = 1$, $p < .01$). Thus, the objective was attained.

attained the four-skill criterion; the mode was four skills, mastered by more than 52 percent of the students. To determine whether the observed percentage of students that attained the four-skill criterion was significantly below the proposed value (70 percent), a single-sample chi-square test was applied to the data. This analysis indicated that the observed frequency of students attaining the four-skill criterion did not differ significantly from the expected frequency under the proposed population parameter (70 percent). Accordingly, the objective for English-reading mastery was attained.

OBJECTIVE 2. SPANISH-READING MASTERY

The program objective in Spanish reading stated that by June 15, 1981, 70 percent of the participating students receiving instruction in Spanish will have mastered four objectives in Spanish reading. The objective was measured through ongoing administration of the Spanish Developmental Reading Program (Leamos).

Table 2 presents the frequency distribution of the number of Spanish-reading skills mastered by program students. Mastery ranged from a minimum of one objective (one student) to a maximum of six objectives (nine students, or 4.3 percent of the population). The mean, median, and mode were four objectives. More than 88 percent of the 211 students for whom these data were submitted attained the four-skill criterion; this surpassed the proposed value of 70 percent. Accordingly, the objective was attained.

To measure the relationship between program instruction and Spanish-reading-skills mastery, a Pearson product-moment correlation coefficient

TABLE 2

FREQUENCY DISTRIBUTION OF THE NUMBER OF SPANISH-READING SKILLS MASTERED BY PROGRAM STUDENTS[a]

Number of Objectives Mastered	Number of Students	Relative Percent	Cumulative Percent
6	9	4.3	4.3
5	39	18.5	22.8
4	138	65.4	88.2[c]
3	13	6.2	94.4
2	11	5.2	99.6
1	1	0.5	100.1[b]
	211		

[a]Measured by the Leamos Test of Spanish Reading.

[b]Exceeds 100 percent due to rounding error.

[c]More than 88 percent of the students mastered at least four new skills; the proposed value was 70 percent. Thus, the objective was surpassed.

was computed between the number of objectives mastered and the number of program sessions attended. The observed correlation was statistically significant ($r = .50$, $p < .01$). Twenty-five percent of the variance in the number of Spanish-reading objectives mastered was accounted for by program attendance.

To determine whether the program had a differential effect upon student mastery of Spanish-reading skills by school level, the percentage of students attaining the four-skill criterion was determined for the elementary, middle, and high school target populations. (See Table 3.) The highest percentage of criterion attainment was observed for the high school students: all 39 students reached criterion. This finding is somewhat mitigated by the large percentage (18 percent) of high school students omitted from this analysis due to excessive absence and early program discharge. Eighty-seven percent of the students at the middle school level and 81 percent of those at the elementary school level attained the criterion. Moreover, 100 percent of the objectives mastered by the high school students were at the advanced level of the fundamental stage of the Leamos. Approximately 23 percent of the objectives mastered by the middle school students and only six percent of the objectives for the elementary students were at the advanced stage. Seventy-seven percent and 74 percent respectively, were at the primary level of the fundamental stage.

OBJECTIVE 3. MASTERY OF MATHEMATICS SKILLS

The mathematics objective of Project Esperanza stated that by June 15, 1981, 70 percent of the participating students will have demonstrated

TABLE 3

RELATIVE PERCENTAGE OF STUDENTS WITHIN SCHOOL LEVEL THAT ATTAINED THE FOUR-SKILL CRITERION IN SPANISH READING

	LEVEL[a]		
	ELEMENTARY	MIDDLE[b]	HIGH SCHOOL[c]
Mastered at least four skills	81%	87%	100%
Mastered fewer than four skills	19%	13%	0%

[a]The numbers of students within level for this analysis were as follows: 115 elementary, 73 middle, and 39 high school.

[b]Comprised of junior high and intermediate schools.

[c]Includes Occupational Training Centers.

mastery of four of the selected math objectives in which they were deficient in September 1980. The objective was measured through ongoing administration of the Diagnostic Mathematics Inventory (D.M.I.).

Table 4 presents a frequency distribution of the number of mathematics skills mastered by the project students. Data were reported for 231 students. Mastery ranged from a minimum of no skills mastered (one student) to a maximum of nine new skills (one student). The mean was 4.2 and the median and mode were four skills. Over 74 percent of the students attained the four-skill criterion. Accordingly, the objective was accomplished.

Most of the skills that were mastered were operational including: addition of single-digit whole numbers; addition with regrouping; addition of multiple-digit whole numbers; subtraction of whole numbers with and without regrouping; and the multiplication of whole numbers. Some of the skills mastered were in the functional areas of money, time, and temperature. Two percent of the students mastered operations with fractions.

There was a moderately strong relationship between the mastery of math skills and program attendance. The Pearson product-moment correlation coefficient between number of skills mastered and number of sessions attended was statistically significant ($r = .56$, $p < .01$). The percentage of shared variance was 31 percent. Accordingly, gains in mathematics skills appeared to be attributable to program attendance.

Analyses of the percentage of students within school level that attained the four-skill criterion (see Table 5) revealed a discrepancy be-

TABLE 4

FREQUENCY DISTRIBUTION OF THE NUMBER OF MATHEMATICS SKILLS MASTERED BY PROJECT STUDENTS[a]

Number of Skills Mastered	Number of Students	Relative Percent	Cumulative Percent
9	1	0.4	0.4
8	4	1.7	2.1
7	9	3.9	6.0
6	26	11.3	17.3
5	38	16.5	33.8
4	93	40.3	74.1[c]
3	27	11.7	85.8
2	27	11.7	97.5
1	5	2.2	99.7
0	1	0.4	100.1[b]
	231		

[a]Measured by the Diagnostic Mathematics Inventory.

[b]Exceeds 100 percent due to rounding error.

[c]Over 74 percent of the students who received instruction in Spanish reading attained the four-skill criterion; the proposed value of 70 percent was surpassed.

TABLE 5

RELATIVE PERCENTAGE OF STUDENTS WITHIN SCHOOL LEVEL THAT ATTAINED THE FOUR-SKILL CRITERION IN MATHEMATICS

	LEVEL[a]		
	ELEMENTARY	MIDDLE[b]	HIGH SCHOOL[c]
Mastered at least four skills	66%	80%	77%
Masterd fewer than four skills	34%	20%	23%

[a]The numbers of students within level for the analysis were as follows: 123 elementary, 84 middle, and 52 high school.

[b]Comprised of junior high and intermediate schools.

[c]Includes Occupational Training Centers.

tween the elementary school students on the one hand, and the middle and high school students on the other. The criterion was attained by 80 percent of the middle school students and 77 percent of the high school students, but only 66 percent of the elementary students.

OBJECTIVE 4. ORAL-ENGLISH PROFICIENCY

An objective of Project Esperanza proposed that participating students will demonstrate statistically significant growth ($p < .05$) in oral English. The objective was measured by comparisons of English-language samples taken during the fall and spring semesters. The samples consisted of the students' oral-English productions in response to the presentation of pictorial stimuli that related to the program's curriculum. Stimuli were presented individually until ten sentences were produced. The average sentence length of these productions was scored in T units by a language-proficiency expert. The scoring technique was adopted from the B.I.N.L. The mean pre- and posttest scores were compared through a t test for correlated samples.

Table 6 presents a summary of the comparison of pre- and posttest English-language samples. The mean gain of 5.5 T units was statistically significant ($t = 3.67$, $df = 330$, $p < .01$). Accordingly, the objective was met.

To determine whether the gains in English-language scores differed significantly among students grouped by school level, a one-way analysis of covariance was applied to the posttest means by school level controlling for differences in pretest means and sessions attended. (See Table 7.)

TABLE 6

COMPARISONS OF PRE- AND POSTTEST ORAL-ENGLISH LANGUAGE PROFICIENCY SCORES

Test Session	N	Mean[a]	S.D.	D	t
PRE	231	55.7	28.2	5.5	3.67**
POST	231	61.2	25.1		

**$p < .01$

[a]Scored in T units

.The mean pre- to posttest gain of 5.5 T units was significant beyond the .01 level.

TABLE 7

ANALYSIS OF COVARIANCE FOR POSTTEST ENGLISH-LANGUAGE SCORES BY SCHOOL LEVEL[a]

Source of Variance	D.F.	M.S.[b]	F
Covariates			
Pretest Language Score	1	53536.9	153.7**
Sessions Attended	1	4095.8	11.7**
Main Effect			
School Level	2	3771.4	10.8**
Residual	213	348.2	
Total	217	636.1	

**$p < .01$

[a]The covariates were pretest scores and sessions attended.

[b]Mean square

.After controlling for the effects of pretest scores and sessions attended, the differences in mean posttest English-language proficiency scores among the three school levels were significant.

A significant main effect was observed for school level (F = 10.8, df = 2,213, $p < .01$); that is, significant overall differences were observed in the adjusted mean posttest oral-English scores among students grouped by school level. To determine which specific school levels differed significantly, post-hoc individual comparisons were applied to each pair of adjusted posttest means using the Newman-Keuls procedure. (See Table 8.) The adjusted posttest mean for the elementary students (M = 67.9) was significantly higher, at the .01 level, than those for the high school and middle school students (M = 57.7 and M = 55.1, respectively). The adjusted means for the latter two groups did not differ significantly. Thus, the gains in oral-English proficiency demonstrated by the elementary school students were significantly higher than those shown by the middle and high school students.

OBJECTIVE 5. MASTERY OF CULTURAL HERITAGE CURRICULUM

The fifth pupil objective stated that by June 1981, 70 percent of the participating students will have demonstrated mastery of four objectives of the cultural heritage curriculum. This objective was measured by a locally-developed cultural heritage assessment instrument. This criterion-referenced instrument was designed to measure mastery of specific skills in four cultural heritage curriculum areas: map skills, vocabulary, history, and holidays. In each of these areas four specific skills were examined. (See Appendix.) Accordingly, the instrument was comprised of 16 items. Three levels of the test were constructed: primary, elementary, and intermediate. The content validity of the instru-

TABLE 8

INDIVIDUAL COMPARISONS[a] OF ADJUSTED ENGLISH-LANGUAGE POSTTEST MEANS BETWEEN SCHOOL LEVELS[b]

		Middle[c] School	High[d] School	Elementary School
	Means[e]	55.1	57.7	67.9
Middle School	55.1	--	2.6	12.8**
High School	57.7		--	10.2**
Elementary School	67.9			--

**$p < .01$

[a]Newman-Keuls procedure.

[b]The numbers of students within school level were as follows: 106 elementary, 65 middle school, 47 high school.

[c]Included junior high schools and intermediate schools.

[d]Included Occupational Training Centers.

[e]Adjusted for differences in pretest scores and sessions attended.

.The adjusted gains in oral-English proficiency exhibited by the elementary school students were significantly higher than those for the middle and hgh school students.

.The latter two groups did not differ significantly.

ment was demonstrated by the judgment of program personnel and D.S.E. bilingual staff that the items related to and throughly sampled the content of the program's cultural heritage curriculum. Test administration was ongoing.

Table 9 presents the frequency distribution of the number of cultural heritage objectives mastered by the target population. Mastery ranged from a minimum of two skills (one student) to a maximum of ten skills (28 students or 12.1 percent of the population). The mean was 5.9 and the mode four. The criterion of four skills was attained by 95.2 percent of the students. Thus the proposed value of 70 percent was surpassed.

A plurality (37 percent) of the skills that were mastered were in the area of map skills; 27 percent, 19 percent, and 17 percent of the skills that were mastered were in the areas of vocabulary, history, and holidays, respectively.

Attendance was observed to affect mastery. The four-skill criterion was met by less than 73 percent of the students in the lowest quartile of the distribution of sessions attended; all of the students in the highest quartile attained the criterion.

A difference in cultural-heritage mastery was also observed by school level. The four-skill criterion was attained by all of the high school students but only 88 percent of the elementary students. Despite this difference, the program objective was met on all school levels.

TABLE 9

FREQUENCY DISTRIBUTION OF THE NUMBER OF CULTURAL HERITAGE OBJECTIVES MASTERED BY PROGRAM STUDENTS[a]

Number of Skills Mastered	Number of Students	Relative Percent	Cumulative Percent
10	28	12.1	12.1
9	12	5.2	17.3
8	15	6.5	23.8
7	16	6.9	30.7
6	32	13.9	44.6
5	58	25.1	69.7
4	59	25.5	95.2[c]
3	10	4.3	99.5
2	1	0.4	99.9[b]
	231		

[a]Measured by locally-developed cultural heritage assessment instrument.

[b]Does not sum to 100 percent due to rounding error.

[c]More than 95 percent of the students tested mastered at least four skills; the proposed value of 70 percent was surpassed.

OBJECTIVE 6. PARENT INVOLVEMENT

The program objective for parent involvement was that by June 15, 1981, 50 percent of the parents of participating students will have taken part in two activities for parents.

Program records were maintained of all parent activities conducted by or promoted by the program and the level of parent participation. The parent activities conducted by the project included workshops, Parent Advisory Council meetings, luncheons, exhibitions of student work, and individual conferences to discuss pupil programs. In addition, the project staff attempted to increase parent involvement in mainstream school activities, such as open house, and special education activities, such as individual educational program (I.E.P.) conferences.

Inspection of the program records indicated that the program conducted a total of 13 separate activities for parents during the 1980-81 school year. The average parent attendance was five. Across all parent activities, both program-conducted and program-promoted, a total of 82 parents at least one attended, representing 35 percent of the target students. However, only ten of these parents (four percent) attended more than one activity, well short of the criterion of 50 percent. Accordingly, the objective was not attained.

OBJECTIVE 7. STAFF DEVELOPMENT

As part of its staff development component, project personnel conducted workshops for the tax-levy classroom teachers to develop their skills

in special and bilingual education. The specific objective of this component was that by June 15, 1981, 80 percent of the participating teachers will have demonstrated mastery of one teaching skill per training session. To measure this objective, the goal of each training session was stated as a performance objective; that is the skill to be mastered was stated in observable, measurable terms with the conditions and criterion unambiguosuly specified. Teacher mastery of these objectives was determined by the workshop leaders (usually the project coordinator or director) in an all-or-none fashion.

Project staff conducted four teacher-training workshops between November 1980 and June 1981. The mean attendance was 13.5 teachers. The topics covered were as follows: instructional objectives; instructional sequences; task analysis; and objectives-based instructional planning. As the topics indicate, the workshops focussed upon instructional management and the diagnostic-prescriptive teaching approach. A review of program records indicated that the training objective was mastered by 100 percent of the teachers for three of the four workshops; 13 of the 15 teachers or 84.6 percent mastered the objective for the fourth workshop. Overall, 96 percent of the teachers attending the four workshops mastered the individual training objectives. Accordingly, the objective criterion of 80 percent was surpassed.

IV. CONCLUSIONS AND RECOMMENDATIONS

The analyses of data from pupil achievement measures and program interviews and observations lead to the overall conclusion that Project Esperanza, in its first year of operation, has provided an effective, comprehensive program of supplementary services that has promoted the academic development of handicapped L.E.P. students.

All of the program objectives for pupil achievement were attained; the proposed criteria were met in English and Spanish reading, oral-English proficiency, mathematics, and cultural heritage. The high school-level population demonstrated larger gains than the elementary or middle school students in Spanish reading, mathematics, and cultural heritage; however the high school students also showed a high rate of truancy. The elementary school students showed significantly larger gains in oral-English proficiency than the middle or high school students.

The project objective for teacher training was also attained. In response to participation in teacher workshops, the classroom teachers demonstrated proficiency in developing individual instructional objectives as the focus of a diagnostic-prescriptive teaching approach.

Despite repeated and varied efforts by project staff, the objective for parent involvement was not attained. It is noteworthy, however, that relative to many other projects for similar populations, a moderate degree of parent participation was achieved. Moreover, project staff demonstrated a sincere desire to increase parent participation by eliciting the aid of N.O.D.A.C.

Observations and interviews revealed that program staff have successfully met the challenge of individualizing instruction for a heterogenous

population faced with the double burden of overcoming their physical, mental, and/or emotional handicaps and limited proficiency in English. Many of the teachers and paraprofessionals who provided direct service to students demonstrated initiative and competence in preparing or adapting special materials for instruction and in varying instructional techniques to suit the individual learner's needs.

A factor which hampered the efforts of program staff was the excessive workload of the resource specialists. Although the actual ratio between the size of the the target population and the number of resource specialists was lower than that which was proposed, the actual number and variety of sites served was greater. Accordingly, the program needs more resource specialists in order to better train classroom teachers, especially in the area of test diagnosis and interpretation, and educational prescription.

To enhance the sizable gains herein observed for the target population, the following recommendations are offered.

- Continue to recruit and place qualified bilingual special education teachers.

- Increase the number of resource specialists. These staff play a critically important role in training and assisting the classroom educators who need in-service training in specific teaching competencies.

- Due to the paucity of appropriate standardized tests and materials for bilingual special education students, future project proposals should consider allocating funds for the specific purpose of identifying, adapting, or creating appropriate curriculum materials and evaluation instruments.

- To facilitate program planning and enhance student gains, D.S.E. should attempt to establish classes and place students at the beginning of the school year.

- Because of recurring questions as to the efficiency of the language proficiency tests used by the program, new tests and procedures for measuring language development should be identified and standardized for special education students with limited English proficiency.

- Finally, it is recommended that this meritorious program be refunded.